

# UNDERSTANDING DEPTH OF FIELD

## WHAT IS DEPTH OF FIELD?

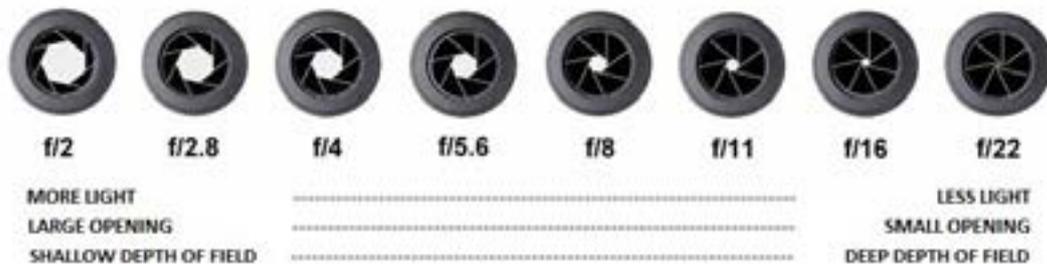
Well, quite simply, it is the amount of your photograph that is in sharp focus. Depth of field can be used creatively to separate a subject in sharp focus from an out-of-focus background. Subjects like landscapes require extended depth of field, shorter focal lengths, (i.e. wider angle lenses) small apertures and often a tripod. The most difficult subjects with regard to depth of field are those requiring extreme close-up or macro photography. It is almost impossible to photograph a small flower without some part of the flower being out of focus. With these subjects, you must have a very clear idea of which part of the subject you want in pin-sharp focus. Some compact cameras with extremely short lens focal lengths tend to have very extended depth of field and consequently, these cameras are excellent for close-up photography. However, these cameras often have no manual controls to alter the camera's settings and therefore manipulate depth of field.

As we learned in the video tutorial, depth of field is governed by the aperture you choose. If you are shooting in Auto, Program or a pre-set "Scene" mode, your camera will select this for you and you may choose to consign the subject of depth of field to the "Black Arts of Photography" for the time being. I recently had to explain depth of field to my son, who has just purchased his first digital camera (a Nikon P520). He'd come across depth of field in his user manual and wanted to know what it was. I had to put my thinking cap on to come up with a simple way of explaining it because he has the attention span of a flat battery and apart from knowing how to switch his new bit of kit on, knew nothing about photography. So here's my explanation ...

## HOW DEPTH OF FIELD WORKS

In the photo at right, you can see the aperture opening inside the lens. (I actually showed my son how this works with a lens from one of my old film cameras). As you turn the aperture ring on the lens or move the dial/wheel on your digital camera, (if your camera has either) you will observe these aperture "leaves" opening and closing. Each one of these opening positions is called an **f stop** and has a number. Regardless of whether the camera is a film camera or a digital; has a small lens on a simple compact point-and-shoot or a big lens on a sophisticated digital SLR, all lenses have aperture leaves like this inside them and they all work the same way.

As we learned in the tutorial, the size of that "hole" - the aperture opening - in the lens controls how much light enters the lens when you take a picture. It also controls the depth of field - how much of your image is in sharp focus. But how do you know what is the right aperture to use to get your image in sharp focus? The diagram below will help you understand how these elements correlate ...



"Shallow" depth of field - small f number and a large aperture opening - means that only the part of the image you are focusing on - the focusing plane - will be in sharp focus. The picture of the poppies below demonstrates this.

"Deep" depth of field - a big f number and a small aperture opening - means that all or most of your image - from the foreground to the background - will be in sharp focus, just like this image at right.

The f numbers and aperture openings in between will give depth of field between the extremes. Good all-round aperture openings that suit a wide variety of situations are the ones in the



middle of the scale in the diagram above - f/5.6 to f/8 - and are the ones you'll most often use.

If your camera can operate in full manual (you select both aperture and shutter speed) or Aperture Priority (you select the aperture while the camera selects the shutter speed), experiment with aperture and focusing to see what happens to depth of field with different aperture settings.